

# TECHNOLOGY

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BY LARRY DERFNER

If the inventor's dream is to "build a better mousetrap," Amram Ohayon, a 67-year-old retired billboard maker and life-long tinkerer, is convinced he's achieved it. After 11 years of work, 40 to 50 different versions, a thorough check of the international mousetrap market and about \$50,000 in expenses, Ohayon and his partner got a patent for their trap in February.

It doesn't look like much - a plastic box with a door in the back and a hole in the front leading up a little plastic mesh pipe with a ping-pong ball in it. No computers, no electricity, no battery, no moving parts. But you watch the demonstration video at Ohayon's Beersheba home and in the space of 20 seconds, you see four mice going in the trap and being helpless to get out.

The bigger boxes can also trap cats, squirrels and monkeys, says Micheal Cohen, 53, Ohayon's partner, whose day job is regional manager for the department store chain Hamashbir Lezarchan.

"He's got a problem," says Ohayon, as the video shows a cat being lured into the box by a piece of fish on the floor inside. "He's worried now," says Cohen, watching the cat's eyes dart back and forth, looking vainly for a way out.

"One morning I saw a meter-long snake inside," says Ohayon.

"Once we had seven mice inside one box," adds Cohen, who met Ohayon when they ran neighboring factories in a Beersheba industrial zone.

Ohayon developed the mousetrap in his spare time at the factory.

"I have a feel for inventing," he says, noting that he invented a fold-up ladder in the early '70s and a fold-up doghouse in the late '80s. "I never did anything with them, though - it costs an awful lot of time and money to turn an invention into a business."

Around 1998, he says, he was having trouble with rats in his factory. "Once they destroyed my fax machine, and I said damn it, I'm going to find a way to stop them."

An animal lover, he didn't want to kill them with an old-fashioned spring mousetrap or poison or glue; he just wanted to keep them from eating up his factory.

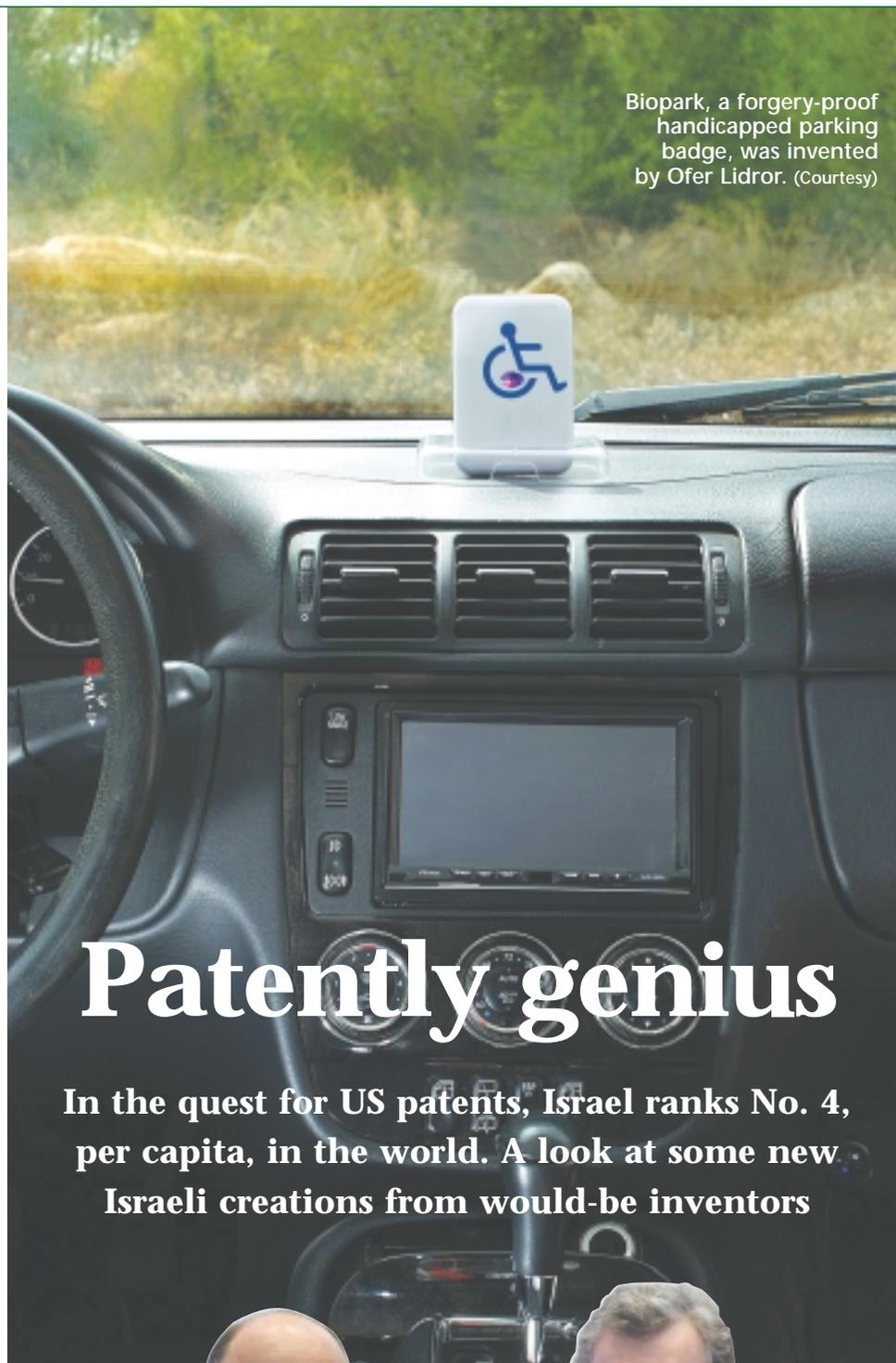
He worked for a couple of years, devising traps that could catch the mice, but couldn't keep them in. Then, one night in his sleep, came the "click."

"I woke up at 2 a.m. and I had the answer - a ball," he says. "I woke my wife up, told her about it, and the next day I went out to buy the material, and I made the trap."

It works like this: The mouse sees the piece of cheese (or chocolate, or peanut butter, which they also like) through the clear plastic, crawls into a hole at the entrance, pushes the ping-pong ball up the slanted plastic mesh pipe, falls through the hole in the bottom of the pipe to the floor, and goes to get its cheese. But as soon as it falls through the hole in the pipe, the ping-pong ball slides back down and blocks the entrance to the trap. When the sated mouse crawls back into the pipe to get out, the ball is blocking its exit, and when it tries to pull the ball away, its claws keep slipping on it. The mouse can't get a grip; it's stuck inside.

But it won't die. The owner picks up the mousetrap from wherever he left it out, takes it to some grassy place, opens the back door and lets the little guy(s) go.

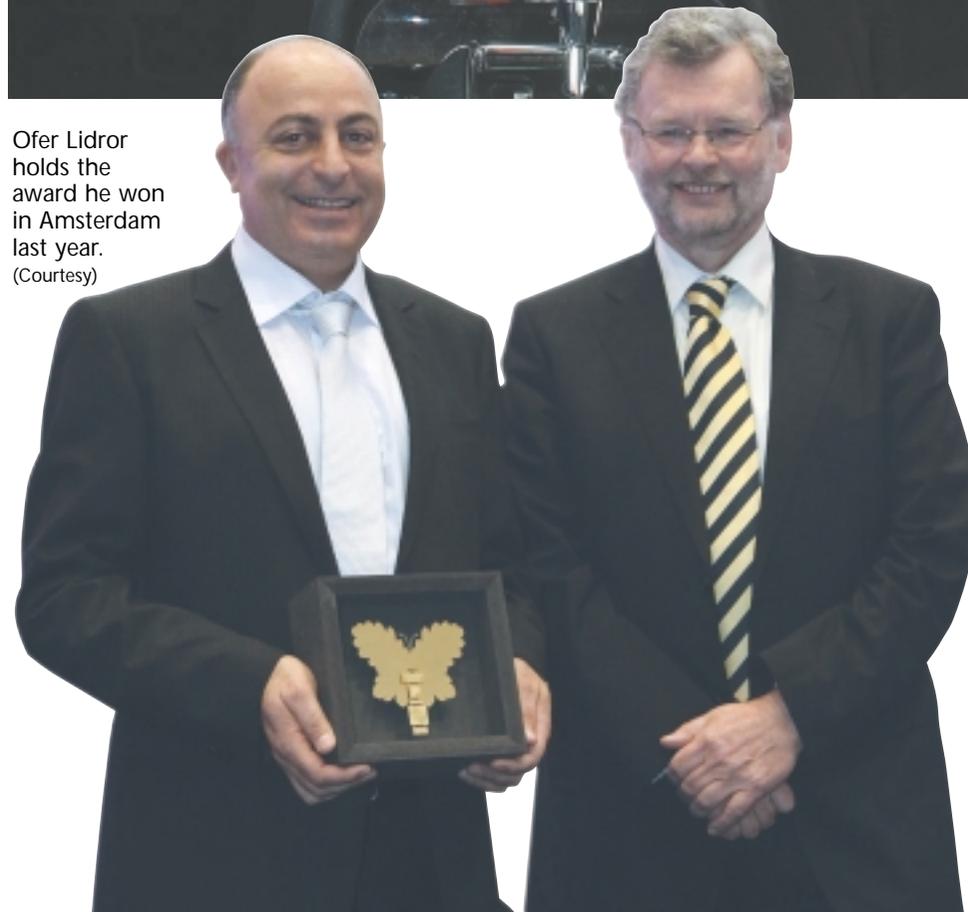
Biopark, a forgery-proof handicapped parking badge, was invented by Ofer Lidror. (Courtesy)



## Patently genius

In the quest for US patents, Israel ranks No. 4, per capita, in the world. A look at some new Israeli creations from would-be inventors

Ofer Lidror holds the award he won in Amsterdam last year. (Courtesy)



"You don't have to collect any dead mice," says Ohayon.

"It's a 'green' mousetrap," adds Cohen. "It shouldn't sell for more than about NIS 60. You can clean it, and it'll last for years."

Now all they need is some company that's willing to put up the money to manufacture and market the thing.

"We don't have that kind of money," says Ohayon. It's the inventor's lament.

"GREEN" IS the new thing in patents - in Israel and everywhere else, says Simona Aharonovitz, who's been superintendent of examiners at the Patent Office for the last five years. The office, part of the Justice Ministry, is located in the technological park across from Malha Mall in Jerusalem. There's not a lot of drama in the office; the patent process, from application to acceptance or rejection, takes place almost entirely by mail.

Between 50 percent and 60% of the applications are accepted for patents; the process takes an average of three years. For inventions in high-priority fields like biotechnology and pharmacology, it takes less than two years, and anything "green" is fast-laned, says Aharonovitz.

The process, she says, is as follows: "First you put in your application and pay the processing fee, which is a little over NIS 1,100. In the application, you have to explain the innovation in detail - its purpose, how it works and what's new about it in comparison to existing patents. Then we research the field to see if we're dealing with something that's fundamentally new, and if the answer is yes, the applicant is awarded a patent."

The examiners are all holders of master's or doctorate degrees in various sciences, Aharonovitz notes.

While seeking a patent in Israel, an inventor with enough money typically seeks patents at the same time in the US, European Union, Japan and other countries; Israel, after all, is a tiny market.

Asked to characterize Israeli inventors, Aharonovitz says they "adapt very quickly to changing circumstances, they ask a lot of questions, and they want maximum service. They're very demanding. Sort of like Israelis in general."

OFER LIDROR, owner of a leading elevator-parts manufacturing company, says he's spent "a fortune" and traveled much of the world on behalf of his newly patented invention. It's not "green," but it is "social" - a forgery-proof handicapped parking badge called "Biopark."

"I invented it because I was angry," he says, sitting at a café near his North Tel Aviv home. "Three or four years ago, I was watching a program about how people forge these badges, put them on their dashboard and take handicapped people's parking spaces, and how it goes on in cities all over the world. Then I was in a stationery store and a guy wanted four laminated photocopies of the badge - at that time it was a little placard, now it's like a credit card. I asked the guy what he wanted them for, and he just turned away."

Lidror, 50, did not actually build Biopark; he hired a team of engineers to do that. What he did was come up with the idea and lead the engineers toward the precise results he wanted. A former kibbutznik, he has "no higher education whatsoever," but says he reads and takes courses incessantly in various scientific fields so he "can work with



Amram Ohayon and his mousetrap: 'It costs an awful lot of time and money to turn an invention into a business.' (Marc Israel Sellem)

trained engineers on their level."

The idea was to create a handicapped parking badge that could only be used by the actual permit holder. "I thought, what is unique about a person that can be identified? One technique that's used in security is a camera that scans a person's iris – but that's too expensive. So is face identification, so is voice identification. The cheapest way is biometrics – fingerprinting."

Lidror figures he can sell Biopark to transportation authorities at a bulk price of less than NIS 500 each.

The Biopark device is smaller than a cell-phone, white with the handicapped symbol of a person in a wheelchair, and it sits on the dashboard. When its registered owner presses any finger in the designated spot, a colored light starts blinking – the signal to a traffic cop that all is legal. If somebody else presses his finger on the spot, the light will not blink.

"This way, the handicapped person can't give the badge to his friends or relatives to use," Lidror notes.

Biopark won the award for parking innovations at the InterTraffic world exhibition in Amsterdam last year.

The patent, which he's in the final stage of receiving, wouldn't be his first; he got one for a metallurgical process applicable to elevators, but didn't develop it. Lidror has also invented a biometric immobilizer for cars; he demonstrated it for me on his car, and it worked. I asked if he planned to take out a patent on this invention, too, and he said, "No, it's so complex, if somebody wants to copy it, let them try."

He's traveled to the US, Ireland, Italy and Hungary for meetings about Biopark with transportation officials. He's also got a business agent pushing it in Switzerland and Austria.

"Forgery of handicapped parking badges costs local governments a fortune," Lidror says. "A badge in Manhattan is worth about \$20,000 a year in free parking."

He's also tried to interest the Transportation Ministry in the device. "It's a challenge," he says diplomatically.

THE INVENTORS profiled in this article are clients handled by Luzzatto and Luzzatto, a patent development company founded in Milan in 1862, now based in Omer, outside of Beersheba. Run by husband and wife Kfir and Esther Luzzatto, the company represents thousands of clients worldwide – "from the largest corporations to beginning entrepreneurs," says Esther.

When it comes to granting patents, Israel is "not among the strictest countries, nor among the easiest," she says, citing Japan as being especially demanding on patent-seekers.

In the quest for US patents, Israel ranks No. 4, per capita, in the world, Luzzatto adds. She attributes the success of Israeli inventors to their go-getter nature and to the highly technical IDF units in which many of them serve.

"To finish high school and spend three or four years in one of these units – there's no preparation like it in the world," she says.

Dror Tzarum, another of Luzzatto and Luzzatto's clients, worked in a highly-reputed family business, too – Tzarum's Yemenite restaurant in Herzliya. Now that he spends of most of his time on real estate, his broth-

er Asher runs the restaurant. Over some great bean soup, Tzarum, 43, who'd never invented anything in his life, explains how he and Asher came up with their anti-car-theft device, "Valve Guard."

"A couple of years ago Asher's car got stolen, a 1998 Nissan. Then Asher gets a call from an Arab guy saying he wants NIS 10,000 and he'll give the car back. We talked about it, and I offered the guy NIS 5,000. The guy said he'd think about it.

"Then 10 minutes later," Tzarum continues, "a different Arab guy calls Asher and asks how much he wants for the car. What happened was that the thief had forgotten to take the 'for sale' sign off the window; he parked it in Kafr Kasim [an Israeli Arab town], and this other guy in Kafr Kasim saw it and wanted to buy the car! I told him what had happened, got his address and asked him to keep an eye on the car until the police came. After we got the car back, we

gave him NIS 1,000.

"But the whole thing made us really angry," says Tzarum, and the brothers determined to come up with a way to stop car thefts. They started looking around at auto accessory shops, and when they saw a specially equipped tire nozzle that lights up the dashboard when the tires are low on air, the idea came to them.

"We figured it was possible to create a tire nozzle that would automatically deflate the tires when someone was trying to steal the car," he says. The brothers hired an electrical engineer and mechanical engineer, told them what they wanted, and six months ago they were awarded the patent in Israel.

The way it works is that if someone tries to open the car without pressing the secret code on the owner's "clicker," the nozzles automatically deflate the tires.

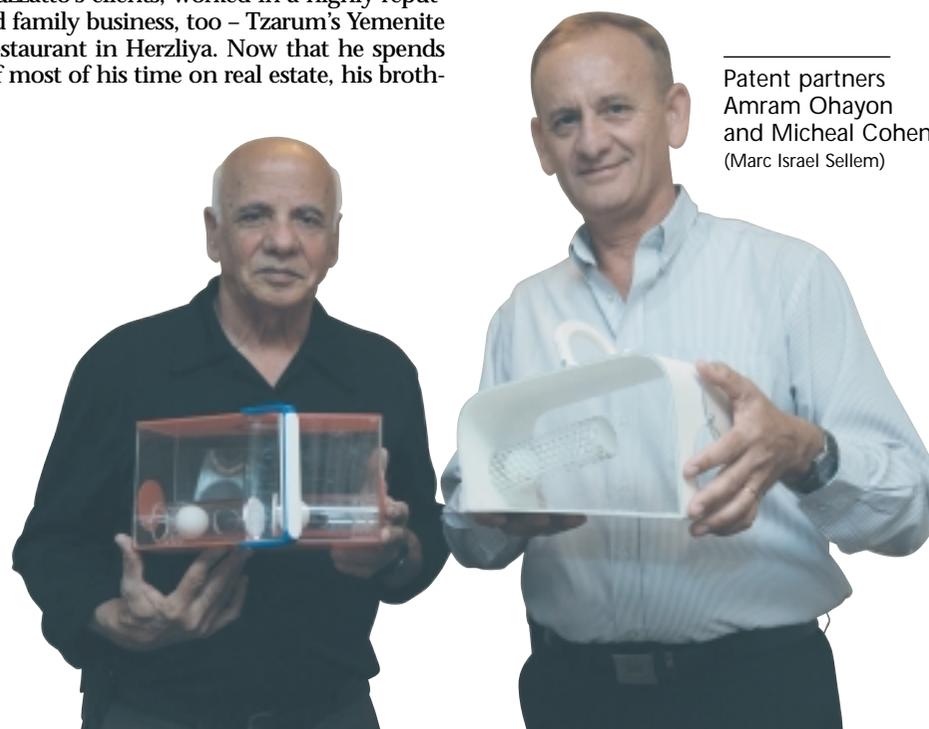
"Theoretically, the car thief can then pump up the tires and drive off with the car, but no car thief is going to work that hard," says Tzarum. To guard against the chance of a malfunction that would deflate the tires while the car was being driven, he adds, the device only works when the engine is off.

"It's not foolproof," Tzarum acknowledges; if you're parked in a deserted area and a car thief with a gun comes up, steals your clicker and demands to know the code, for instance, Valve Guard cannot save you. "But it'll cut down car thefts by 80% to 90%," Tzarum suggests.

The brothers have spent about \$150,000 preparing their invention for patents in the US, Europe, Japan and Korea; now they're looking for a company that will invest a lot more in mass-producing it.

"We had an offer from a South African businessman to buy the invention from us for \$250,000. For now, at least, we're not interested," says Tzarum.

As Esther Luzzatto says, Israeli inventors "have chutzpa. They think they can do anything" – create tire nozzles that stop car theft, design forgery-proof parking badges for the handicapped. Even build a better mousetrap. ■



Patent partners Amram Ohayon and Micheal Cohen (Marc Israel Sellem)